



Bureau of Safety and Environmental Enforcement

# **BSEE-NASA Probabilistic Risk Assessment Study**

March 1, 2018

Houston, TX

# Origin of NASA Partnership

- Leadership vision: Quantitative risk management as an element of BSEE's risk-informed approach to oversight of offshore operations.
- Objective: Evaluate potential application and suitability of PRA to better understand and manage risks of offshore oil and gas activities involving less-understood environments or new technologies.
  - Deeper waters
  - Deeper wells
  - High pressure high temperature environments
- 2016: Entered into 5-year agreement with NASA

# Work Products / Activities

- White paper on potential applications for PRA in offshore oil and gas
- PRA Guide to assist in the development of PRA for offshore systems, ops, or facilities
- Deep water drilling PRA at the integrated facility level
  - Extension to additional systems and specific technologies
- PRA data assessment

<https://www.bsee.gov/what-we-do/offshore-regulatory-programs/risk-assessment-analysis/probabilistic-risk-assessment-analysis>

# What is our vision for PRA?

- PRA is not the appropriate method for every situation
- PRA may be appropriate where consequence, complexity, or uncertainty are higher
- PRA is useful for evaluating complex systems
- *BSEE is continuing to shape our vision as we evaluate PRA and gather stakeholder input*

# Potential Applications for PRA

- Operator demonstration of safety
  - Proposed alternate compliance
  - Operations in higher-risk environment
  - New technology
  - Higher-uncertainty proposals
- Contract for generic PRAs on specific technologies or operations
  - Add to body of knowledge and increase understanding
  - Establish a comparative baseline
  - Identify areas of highest risk

# Next Steps

- Refine PRA Guide
- Establish PRA database for industry use
- Continue to evaluate application of PRA to drilling systems/techniques

# Questions?

BSEE Website: [www.bsee.gov](http://www.bsee.gov)



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